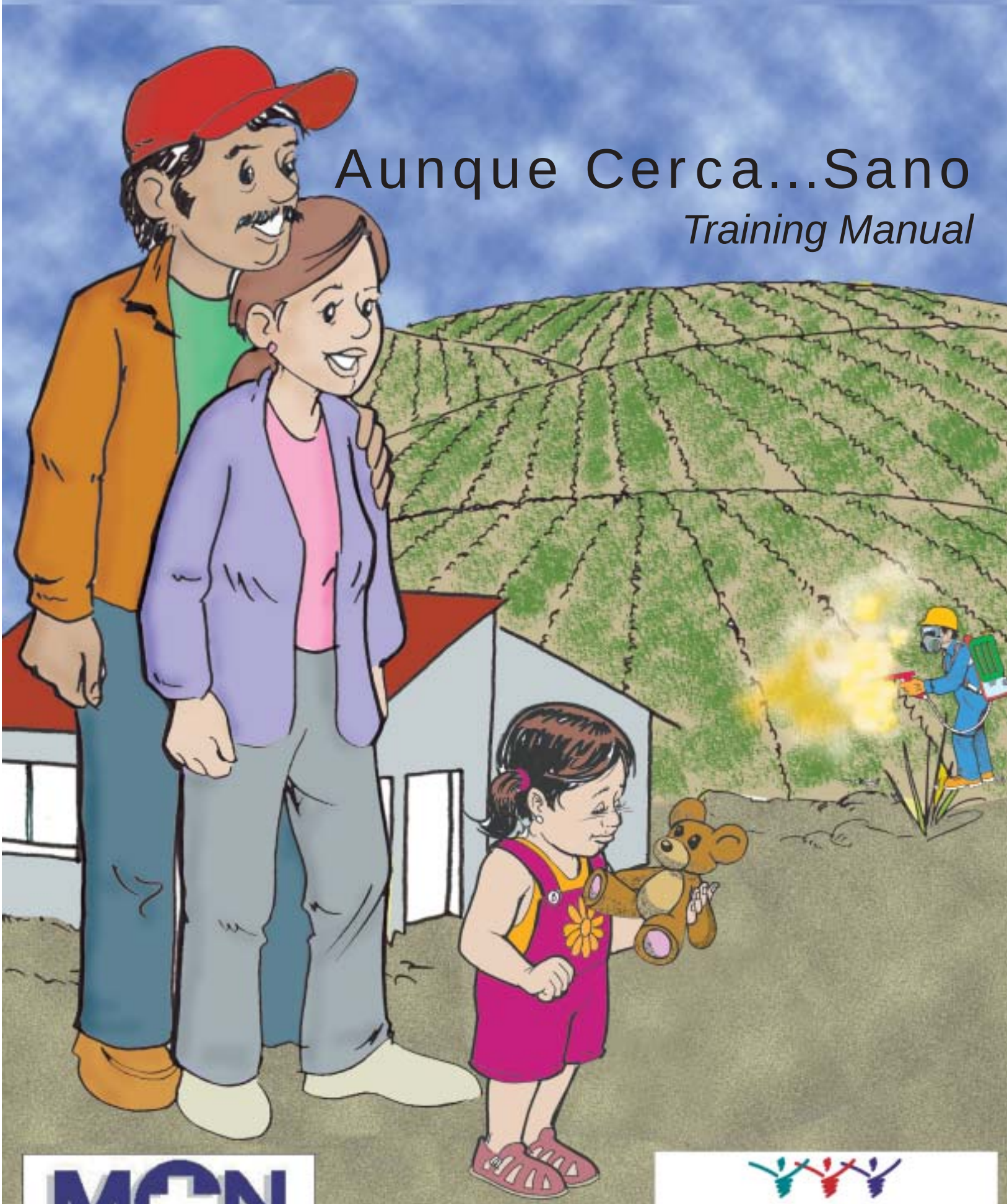
Aunque Cerca...Sano

Training Manual



Migrant Clinicians Network

PASO DEL NORTE HEALTH FOUNDATION

Better Health, Better Lives, A Better Community.

Acknowledgements and Introduction

This manual is part of Farmworkers and Families: Pesticide Education Project, an initiative of the Paso del Norte Health Foundation. The project is directed by the Migrant Clinicians Network, Inc., who partnered with the Southern Area Health Education Center of New Mexico State University and the Promotora Project of La Clinica de la Familia to pilot, implement and evaluate the project in southern New Mexico.

This manual serves as a guide for a training of trainers workshop aimed at educating lay health educators or *promotores de salud* regarding pesticides, the health effects of pesticides, steps to minimize pesticide exposure and ways to communicate this information to farmworker families. There is particular emphasis on promoting health messages to parents and caretakers to help them reduce risks and minimize children's exposure to pesticides. The educational comic book, *Aunque Cerca...Sano*, complements this manual and serves as a tool to assist the promotores in their community-based educational efforts.

The development of *Aunque Cerca...Sano* Training Manual was made possible through a generous grant from the Paso del Norte Health Foundation. We are grateful to Eric Hutson, Program Officer, for his support and assistance with this project.

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2

Table of contents

Knowledge Assessment

Time: 15 minutes

As the participants arrive...

Distribute handout 1: Pesticide education assesment

Explain to them that this assessment helps you evaluate the workshop content and methods. Tell them that they will be given a similar assessment at the end of the workshop. Give them 5-10 minutes to complete the form.

Getting to Know Each Other

Time: 20 minutes

Welcome the participants to the workshop and introduce yourself to the group.

Ask the participants to introduce themselves. An icebreaker exercise may help the participants to feel more comfortable with the workshop setting, and may help the participants get to know each other better.

Suggested Icebreaker Exercises:

1) Interviews

Ask the participants to form pairs, preferably with someone they do not know. Ask them to interview their partner and vice versa. Explain to the participants that this exercise provides an informal way for everyone to meet each other. Tell them that they will have five minutes to interview each other. At the end of the exercise each participant will be given one minute to introduce their partner to the group. Suggest that they may ask questions such as:

- What is your name?
- What do you prefer to be called?
- Where are you from?
- Why are you a promotora?

2) Picture Presentations

Give each participant a large sheet of blank paper and a marker. Ask the participants to describe themselves by drawing pictures. Discourage them from using words. Tell them that they are free to describe any aspect of their lives such as where they are from, their families, their hobbies etc. After they have completed this exercise, ask the participants to introduce themselves by explaining their drawings. Hang each drawing on the wall. You should also participate in this exercise.

Program Description

Time: 5 minutes

Explain to the participants that this training is part of a program to educate farmworkers and their families about pesticides, the health effects of pesticides and ways to minimize pesticide exposure. The title of this program is "Farmworkers and Families: Pesticide Education Project." This particular program places special emphasis on educating the families in order to make sure parents and caretakers know how to reduce risks and minimize children's exposure to pesticides. The program utilizes skilled *promotoras de salud* or lay health advocates to educate the families with children who work or live close to agricultural fields.

Workshop Goals and Objectives

Time: 5 minutes

Tell the group that the overall goal of this workshop is to train the participants so that that they may successfully promote pesticide education to farmworkers and their families.

Distribute handout 2: Pesticide education workshop objectives

Review this objectives with the participants.

Workshop Objectives

1) Define toxicity and the factors that influence toxicity
2) Know the different types of pesticides and their uses
3) Know how pesticides enter the body (routes of exposure)
4) Recognize the ways that children are exposed to pesticides
5) Be familiar with the health effects of pesticide exposure
6) Understand how pesticides affect children
7) Identify ways to minimize exposure to pesticides
8) Be familiar with the Worker Protection Standard
9) Know the appropriate actions to take in the case of pesticide exposure or pesticide poisoning
10) Be familiar with ways to effectively promote pesticide education to farmworkers and their families
11) Understand how to implement and evaluate program activities

Workshop Norms

Time: 10 minutes

Explain to the participants that you would like to have a positive and comfortable learning environment for the workshop. Tell them you encourage everyone to participate in the learning process. Explain that it is helpful to establish norms or rules for everyone to follow so that everyone is comfortable and able to participate. Ask the group to tell you the norms that they would like to set for the workshop. Encourage the following responses:

- Everyone is responsible for learning
- Everyone should participate
- Respect the views and opinions of others
- Help each other learn

Toxicity

Time: 30 minutes

Defining Toxicity

Ask the participants to state the first thing they think of when they hear the word chemical.

Write their responses on the flip chart. Answers generally include visions of death, disease etc.

Explain to the group that in order to truly understand the threats posed by chemicals, it is important to clarify the concept of chemical. Explain chemicals by using the information below:

- Everything and everyone on this planet is chemical in nature. All matter is composed of chemical elements. Elements include oxygen, hydrogen, gold, silver, etc. Atoms are the basic building blocks in chemicals and they link together to form molecules and several molecules form a substance called a compound (water, sugar, salt, etc.). For instance, water is the combination of two atoms of the element Hydrogen and 1 atom of the element Oxygen. That is why it is abbreviated as H_2O.
- Chemicals can be natural or synthetic (man made). Chemicals can be beneficial, can cause no harm, or can be toxic.
- All chemical substances, under certain circumstances, can be toxic. Toxic means that the substance has the ability to produce injury. How much injury and what kind of injury depends on a number of factors.

Acute versus Chronic Toxicity

Explain to the group that there are two types of toxicity: acute toxicity and chronic toxicity. Ask the group if anyone can explain the difference between acute and chronic toxicity.

- **Acute toxicity** refers to the ability of a chemical to do damage after a one-time exposure (contact). The exposure is sudden and often becomes an emergency situation. This can occur when exposed to large amounts of a somewhat toxic chemical or from a small amount of a highly toxic chemical.
- **Chronic toxicity** refers to the ability of a chemical to cause damage after repeated exposure to relatively low amounts of the chemical over a long period of time.

Ask the participants to the give you examples of acute and chronic toxicity. Alcoholic beverages are a good example to explain both concepts. To explain acute toxicity, use the example of a person drinking too much beer at one time and getting sick. To explain chronic toxicity offer the example of the person who drinks too much for many years and gets liver cancer.

Distribute handout 3: Chemicals and toxicity

Factors that Influence Toxicity

Dose-Time Relationship

Ask the group to think about the previous exercise. Ask them to identify the two main factors that influence toxicity. Guide them to the dose and time answer. Tell them that the most important factor that influences how a chemical affects the body is called the dose-time relationship—how much of the chemical is involved (dose) and how long one is exposed to the chemical (time).

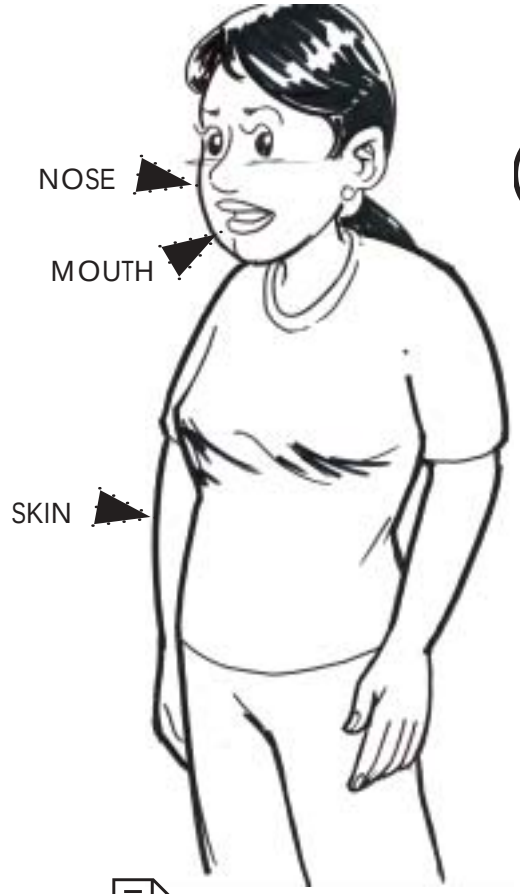
Give the group an example of the dose-time relationship by using a familiar example—alcohol. Ask them what happens to someone if they drink one beer in one hour. Ask them what happens to someone if they drink two beers in one hour, three beers in one hour etc. Drinking three or four beers in one hour would most likely affect someone's sense of balance, ability to think etc. Now, ask them if it would make a difference if the three beers were consumed over three hours as opposed to one hour.

Ask them to explain the dose-time relationship in terms of alcohol and acute and chronic toxicity. Help them by asking if someone can die from drinking too much alcohol at one time. Ask them what happens to someone who drinks heavily over a period of years.

Routes of Exposure

Brainstorm with the group another factor that influences toxicity—how chemicals enter the body. Tell them that they have already been talking about one of the routes of exposure (mouth). Ask them if they can recall the previous discussion. Listed below are the three most common routes of exposure:

- SKIN: Absorbing chemicals through the skin, including your eyes
- NOSE: breathing in chemical gases, mists, or dusts that are in the air
- MOUTH: Breathing or swallowing chemicals that have spilled or settled onto food, beverages, cigarettes, beards, or hands



Distribute handout 4: How chemicals get into my body?

Other Factors

Explain to the group that in addition to the dose-time relationship and various routes of exposure, there are other factors that influence toxicity.

Brainstorm with the group to come-up with a list of other factors. As they suggest the various factors ask them to explain how it might influence toxicity. Listed below are other factors that influence toxicity:

- Age (child vs. adult)
- Sex (male vs. female)
- State of Health (sickness vs. health)
- Nutrition (undernourished vs. nourished)
- Other Chemicals
- Tolerance

8

Distribute handout 5: Main factors that influence toxicity

Vulnerability of Children

Time: 20 minutes

Materials: one clear glass of water, one clear pitcher of water (an empty translucent container of juice or milk), liquid food coloring.

Ask for a volunteer to put three drops of food coloring in the glass. Ask for another volunteer to put three drops of food coloring in the pitcher. Ask the participants to imagine that the glass of water was a child, the pitcher was an adult and the food coloring was poison. Ask them who, the adult or child, was more affected by the poison.

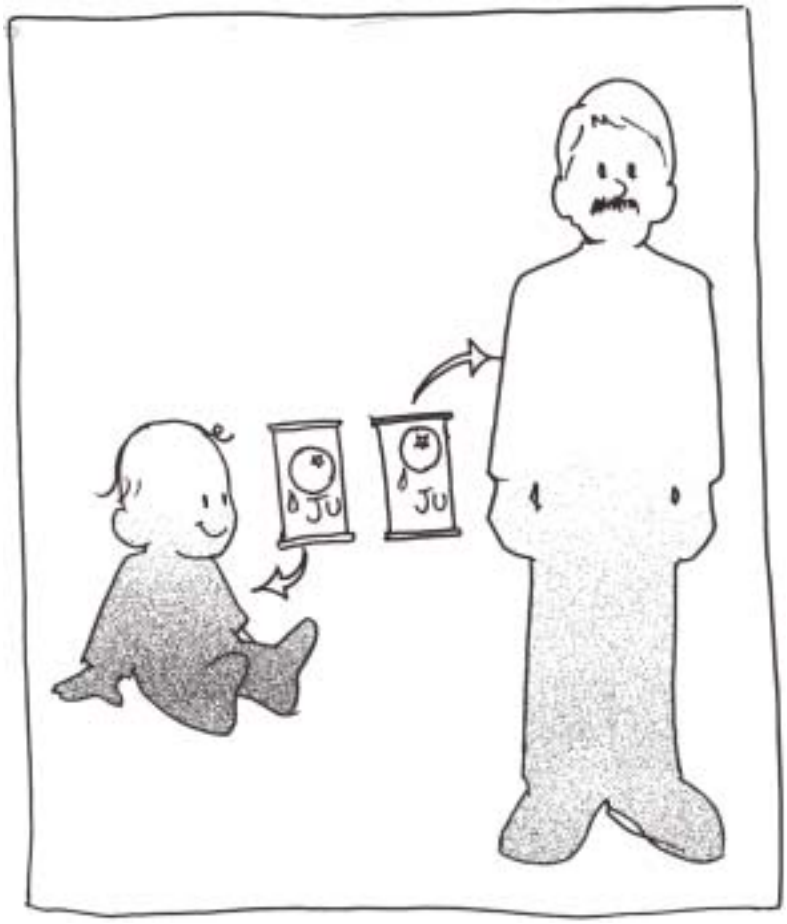
Draw a diagram of a baby on a flip chart. Next to the baby, draw the out line of an adult. Ask the group to brainstorm why children would be more affected by exposures to chemicals and other environmental hazards than adults and why in some cases, children are more likely to be exposed to certain chemicals and hazards than adults. Ask them to think of the previous demonstration. Try to elicit answers such as:

- Children are smaller and weigh less than adults.
- Children eat and drink more than adults.
- Children behave differently (crawl and hand-mouth activity).
- Children are still developing.

Children Are Smaller

Draw a glass of juice next the baby. Draw the same size glass of juice next to the adult. Tell the participants to imagine that both the baby and the adult drink the same amount of juice. Ask the group to think about who got the most juice. Explain that pound per pound the baby got the most juice. Ask them to think about this example in terms of exposure to certain pollutants.

Ask the group if they have ever taken Tylenol ® for a headache or fever. Ask them if they have ever given Tylenol ® to a young child for a headache or fever. Ask them if they took the same amount of Tylenol ®. Ask them to explain why an adult would take a larger amount. Explain that children need a smaller "dose" than adults. This concept is similar when exposed to toxins. Pound per pound, children breath more air, eat more and drink more than adults. In relation to their body weight, infants and children are more vulnerable to pesticide exposure than an adult.



Behavior

Ask the group to explain why young children's behavior would make them more susceptible to exposure. Explain that by crawling, babies are closer to many hazardous substances such as lead dust and pesticides. Ask them what children like to do with their hands after they have been crawling. Explain that young children like to explore the world with their mouths and that everything from hands to dirt can go into their mouths as part of their normal behavior.

Still Developing

Ask the group if a baby's organs are fully developed at birth. Explain to them that a baby's organs continue to develop after birth. This is true of the brain and the liver and many other parts of the body. Ask them if they think it is more difficult for a baby to get rid of or detoxify a toxic chemical if his or her organs are not fully developed.

Explain that a child's excretory system or the system that helps the body get rid of waste is not fully developed. The human body removes waste and poisons. The kidneys are largely responsible for filtering the waste. Humans then excrete or get rid of the waste through urinating or sweating. In many cases, adult bodies are able to excrete or get rid of waste. Because children's excretory systems are still developing, the body may not fully remove pesticides. Also explain that pesticides can block the absorption of important food nutrients necessary for normal healthy growth.

There are "critical periods" in human development, including before birth, when exposure to a toxin can permanently alter the way an individual's body develops which can lead to health problems.

Distribute Handout 6: Vulnerability of children

Topic Summary

Summarize this section by asking participants to define toxicity, acute and chronic toxicity and the factors that influence toxicity. Ask the participants to explain to you why children are more vulnerable.

Pesticides

Time: 1 hr. 15 min.

What are Pesticides?

Brainstorm with the group to define pesticides and its uses. Write their comments on a flip chart.

Definition

When the group is done, explain that pesticides are chemicals used to control or kill insects, rodents and weeds that may be harmful to our health and to our crops. Also explain that pesticides can be harmful to and even kill beneficial plants, animals and people.

Uses

Ask them where most pesticides are used. Explain that most pesticides are used to in agriculture (75%). Ask them for other uses of pesticides. Other uses include:

- Households
- Lawn Care
- Insect Repellent
- Mosquito Control
- Household Cleaners
- Pets
- Golf Courses

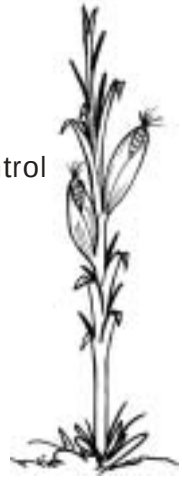
Common Names

Brainstorm with the group common names used for pesticides in the community. Write the response on a flip chart. Explain that it is important to know the terms that the community uses to describe pesticides.

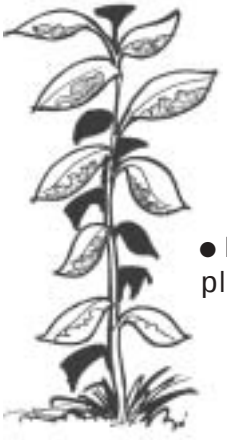
Types

Explain that when we talk about pesticides we are talking about all chemicals used to control pests. List each type of pesticide on a flip chart and ask the participants to explain their uses.

- Insecticides —to control insects



- Herbicides—to control weeds



- Fungicides—to control plant diseases

- Rodenticides—to control rats, mice and other rodents

Also tell the group that pesticides are made and applied in different forms.

Brainstorm with the group about the different forms. You may wish to do two brainstorming exercises—one for pesticides used in agriculture and one for pesticides used in the home.

- Powders for mixing with water and spraying
- Granules and dusts for dusting (e.g. boric acid)
- Liquids for spraying (e.g. Raid ®)
- Coatings on seeds
- Pellets
- Baits
- Sticky paper
- Gel

Bring different products of pesticides to the training to show the group the different presentations.

Application

Briefly review with the group the most common pesticide application systems utilized in agriculture:

● Manually sprayed by an applicator

● Mechanically applied using a tractor

● Mix with the irrigation water

● Mechanically applied using a plane

Distribute handouts 7: Pesticides and 8: Types of Pesticides

How Do People Get Sick from Pesticides?

Pesticide Skit

To begin this section, conduct the following role-play developed by Farmworkers Justice Fund with the scenario outlined below. Your role is the game show host.

GAME SHOW HOST:

Welcome ladies and gentlemen and children of all ages. We are here today to play our version of How to Become a Millionaire. Everyone will have a chance to participate, so don't be shy.

Our contest today consists of solving a single puzzle. What we have here today are two bottles that appear to contain the identical liquid. But appearances can be deceiving. I will tell you this: one bottle contains the sweetest juice in the world; the other contains the most deadly poison. A lucky contestant will be invited to come up here and try to choose the juice. If she or he chooses the juice, she or he will win one million dollars.

There is one catch: In order to know whether the contestant has chosen the juice, the person must drink the contents of the bottle. If the person does not fall down in front of our eyes, we will know that that person is the winner! Now who dares to be our first contestant?

ALTERNATIVE ONE: (NO VOLUNTEERS)

GAME SHOW HOST: Why doesn't anyone want to be our contestant? Don't you want to win one million dollars?

PARTICIPANTS: We don't know which bottle contains the poison and we don't want to risk it.

GAME SHOW HOST: Excellent answer. You shouldn't drink something unless you know what's inside it. If you do, it's like playing Russian Roulette. The contents may be delicious or they may be deadly.

The same is true when you use pesticides or your family is exposed to them. Unless you know how they may affect you or your children, and you take proper precautions, you will be putting your family's health at risk.

ALTERNATIVE TWO:
(VOLUNTEER STEPS UP)

GAME SHOW HOST: Let's congratulate this brave volunteer. Before you make your selection, I have to remind you that you drink from one of these bottles at your own risk and I will take no responsibility for the consequences. Now which bottle do you choose? Is that your final answer? (Do you want to call a friend?) AS THE VOLUNTEER REACHES FOR THE BOTTLE, GAME SHOW HOST INTERVENES: I'm sorry I can't stand by and watch you poison yourself (and takes the bottle out of the volunteer's hand.) What happens when you drink something and don't know what's inside? It's like playing Russian Roulette. The contents may be deadly.

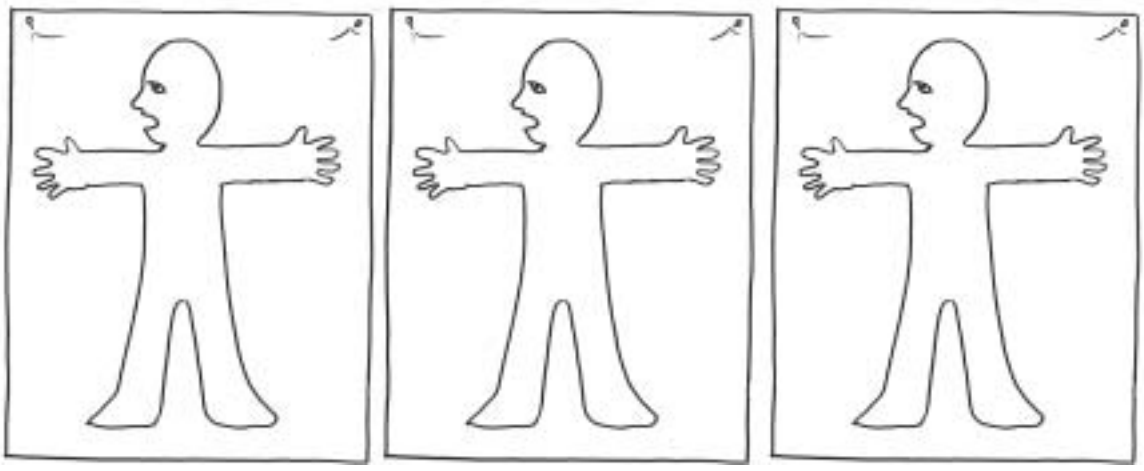
The same is true when you use pesticides or your family is exposed to them. Unless you know how they may affect you or your children, and you take proper precautions, you will be putting your family's health at risk.

Routes of Exposure

Divide the group into three groups. Give each group a piece of flip chart paper with an outline of a body and several markers. Ask each group to mark with an X the parts of the body where a person can be exposed. Ask them to list next to the body how such an exposure can happen. And then ask them to draw an arrow to the part of the body that is likely to be exposed from this source. For instance, on the side of the paper a participant writes: "accidentally splashed in the eye while mixing a pesticide." The participant draws an arrow to the eyes. Ask them to think about the different forms of pesticides (powders, sprays etc.). Ask each group to present their results. Assist the participants in their activity and encourage them to include the following information:

Points of Entry

- Through the skin
- Through the eyes
- Through the mouth (swallowing)
- Through the nose (breathing)



Sources of Exposure

- accidentally splashed with pesticides in the eyes while mixing a pesticide solution or spraying pesticides.
- eating fruit and vegetables with pesticides on them.
- through your clothes or when you wash clothes with pesticides on them.
- drinking water contaminated with pesticides.
- working in a field that has been sprayed.
- playing near or in a field after it has been sprayed.
- drift from a nearby field.
- hand-mouth contact (smoking or eating after working in the fields).
- touching the floor or ground and objects such as toys, plants and clothing etc. that have pesticides on them and putting hands in the mouth.
- putting objects such as toys directly in the mouth.

When the groups are finished ask for a representative from each group to explain their flip chart.

When the groups are finished explain to them that the most common route of entry is through the skin. Ask them if they think the skin can block pesticides from getting into the body. Tell them that the skin is like a sponge, very absorbent.

Ask each of the participants to put skin lotion on their hands. Ask them to rub it into their hands. Ask them to explain what happened to the lotion.

Explain that the same thing happens with the pesticides on the skin.

Children and Exposure to Pesticides

Use the following skit developed by Farmworkers Justice Fund to help explain how children are exposed to pesticides.

Skit: Ask for three volunteers. Ask one to play the mother and the others to play children (one of whom should pretend to be a toddler). Put in the center of the room a table set for lunch. Add a few plastic bugs on the table and the floor. Have the stuffed animal at the place set for the toddler.

Explain the following scenario to the volunteers and perform the role-play:

Mother: *Children, it's time for lunch.*

Child I: *Look mommy, there's a bug.*

Mother: *Oh no, I better get the bug spray. Goes and sprays all over the table and floor, including the plates and the child's toy.*

Child I: *Look mommy, that spray has left little spots on the plate.*

Child II: *Touches toy with spray and puts hand in mouth.*

Child I: *Mommy is that spray good for us?*

When the skit is over, thank the volunteers and ask the group the following questions:

- Did the pesticide spray get into the children's bodies? If so, how?

Answer:

1) Skin: The children touched the pesticide and it entered their bodies through the skin.

2) Mouth: The younger child also touched the pesticides and then put her hand in her mouth and the pesticides got in her body through her mouth.

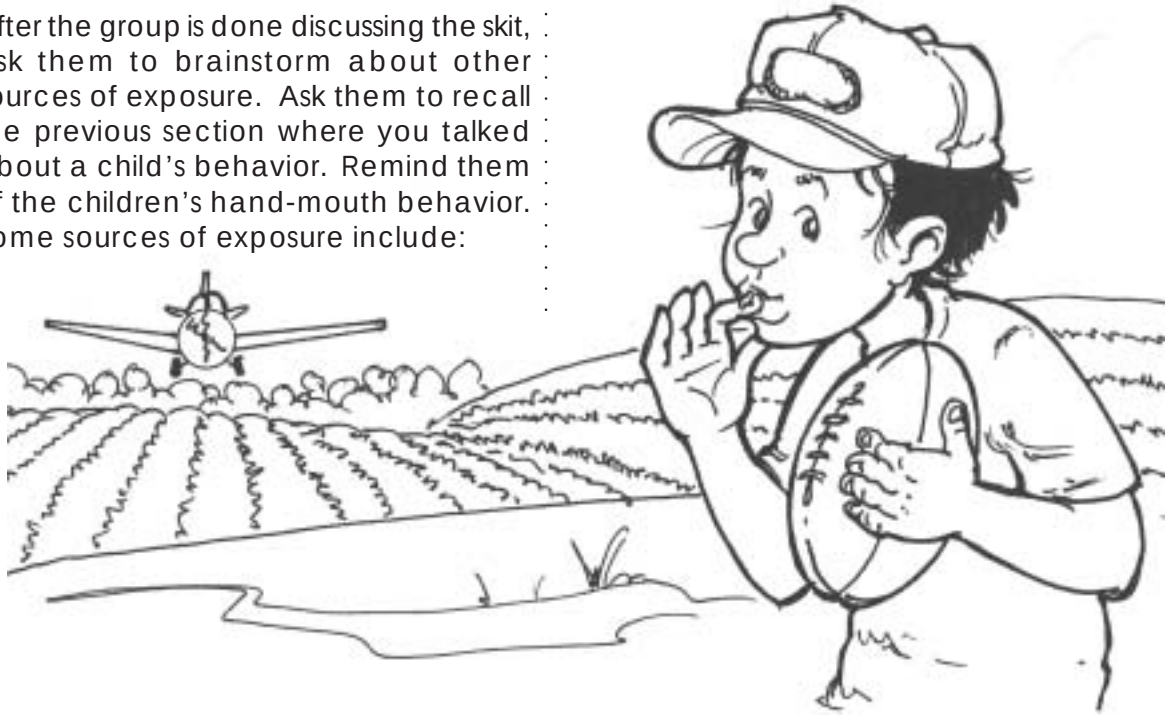
3) Nose: The children breathed it in.

Explain that while skin is the most common route of exposure as discussed previously, some of the most serious injuries for kids occur when kids directly swallow pesticides.

Summarize for the group that the three most common routes by which pesticides enter the body are: through the skin, through the mouth, and by breathing them in.

After the group is done discussing the skit, ask them to brainstorm about other sources of exposure. Ask them to recall the previous section where you talked about a child's behavior. Remind them of the children's hand-mouth behavior. Some sources of exposure include:

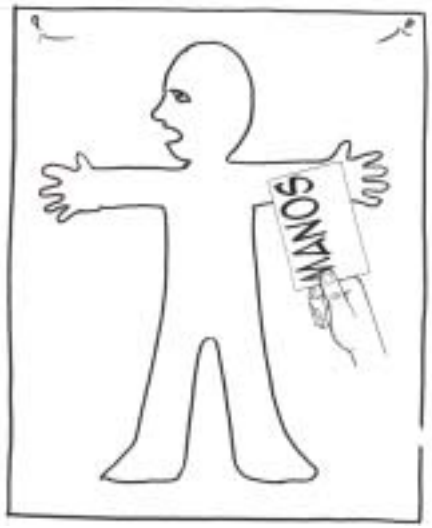
- playing directly on the ground/ floor that has been treated with pesticides or has been exposed to pesticide drift.
- playing in or near fields that have been sprayed.
- touching objects such as toys, plants and clothing etc. that have pesticides on them and putting their hands in their mouth.
- putting objects such as toys directly in the mouth.
- tracking pesticides from the field into the home through farmworker parents' shoes.
- contacting/touching clothing worn by farmworker parents in the field
- washing children's clothes with clothes worn by farmworker parents in the field.
- contacting directly pesticides used in the home (e.g. accidentally swallowing a pesticide or simply absorbing it through the skin).
- washing with lice shampoo.



Health Effects

Acute Effects

On a flip chart draw an outline of a body, with eyes, nose, mouth and hands. Make up cards with the below information. Give one card to each participant and ask her to tape it next to the part of the body and explain the symptom to the rest of the group. When the group is done, ask them if these are acute or chronic health effects. Explain that these are symptoms of acute pesticide poisonings. In addition to these systems, more severe signs include: drooling from mouth and nose, shortness of breath, loss of control over bladder and bowels, blue lips and fingernails and unconsciousness. A severe poisoning can kill. Tell the group that if they or anyone they know experience these symptoms, they should get away from the pesticide and go to a hospital or clinic right away.



Note: Explain that many symptoms of pesticide exposure may not begin right away. Generally symptoms begin within 2-3 hours (and within 12 hours) after exposure.

Distribute handout 9: Signs for pesticide poisoning

Card Information

Prepare a card or a sheet with the info of each bullet.

- **Nose and Mouth:** runny nose, drooling.
- **Chest and Lungs:** pain, breathing problems.
- **Stomach:** pain, diarrhea, nausea and vomiting.
- **Legs and Arms:** muscle cramps or pains, twitching, trouble walking.
- **Skin:** itching, rashes, bumps, redness, blisters burning, sweating too much.
- **Head and Eyes:** headaches, vision problems, small pupils in the eyes.
- **Hands:** damage to fingernails, rashes, numbness and tingling in fingers.
- **Other general signs:** confusion, weakness, trouble concentrating, muscle twitching, restlessness and anxiety, bad dreams and trouble sleeping.

Pesticide Poisoning in Children

Explain to the group that common signs of acute pesticide exposures include many of the adult symptoms, but also include:

- Tiredness
- Fits and Shaking (seizures)
- Unconsciousness

Chronic Effects

Explain to the group that many workers and people are exposed to low levels of pesticides over long periods of time and that many people may not even be aware that this exposure may lead to health problems. Ask the participants to list some of the chronic effects of pesticide exposure. Such effects include:

- Cancer (i.e. leukemia, brain, Non-Hodgkins, etc.)
- Infertility
- Miscarriage
- Birth defects
- Nervousness or memory loss
- Weakness in the arms and legs
- Asthma, respiratory illnesses and sensitivities.

In children some chronic effects also include:

- Allergies, asthma, and respiratory illnesses
- Difficulty learning
- Cancer
- Slow growth

How to Minimize Exposure

Time: 30 min.

Video and Discussion

Show the video The *Playing Fields*. After the video, ask the participants for their opinions about the video.

Divide the group in half. Ask one group to discuss ways to minimize exposure to pesticides while working in the fields and to prevent bringing pesticide residues home. Ask the other group to identify ways to minimize exposures at home. Ask each group to think about the video as well as their own experiences. Ask them to write their responses on a flip chart. Ask each group to select a representative to read their list aloud. Add to their lists any of the following they might have missed:

Minimize exposure when working in the fields:

- Wear protective clothing—long pants, long sleeve shirts, socks, shoes, a hat and gloves (if possible).
- Wash hands before eating, drinking and smoking. Wash hands before and after going to the bathroom.
- Change clothes after working in the fields.
- Wash work clothes with pesticides separately.
- Shower after working with pesticides or in the fields.
- Keep out of recently treated fields. If you see a warning sign, enter only when you know the Restricted Entry Interval has ended.
- Never take pesticides from work to home.

Minimize Exposure When at Home:

- Wash fruits and vegetables before eating.
- Take shoes off before coming in the house.
- Never use pesticide containers other than to store pesticides.
- Wash toys that may have pesticide drift on them.
- Wash hands and wash children's hands.
- Maintain a clean home.

How to respond to a pesticide poisoning

Time: 40 min.

Divide the participants into three groups. Ask each group to role-play what to do in case of a poisoning (such as the one in the video) and what information to tell a health care professional. Ask the group to include a promotora in the skit and to include information that a promotora would be able to offer a family either before or after the poisoning.

After each group has performed their skit, remind them that it is important to seek medical attention when someone has been poisoned by pesticides.

They should be sure to explain to the health care provider that they suspect pesticide exposure and how it occurred. If possible they should tell the professional the following information:

- Age, weight and the symptoms of the person poisoned.
- Name of the product.
- Time of exposure and when symptoms began.
- Amount ingested.
- If other people were exposed and are experiencing similar symptoms.


Distribute handout 10
Protect yourself from pesticides

Ask volunteers to read the handout aloud.


Distribute handout 11:
Helpful telephone numbers

Alternatives to Pesticides in the Home

Time: 20 min.

Show the video *How to Control Pests.* After the video, divide the group in half. Ask one group to brainstorm all of the steps to take before using pesticides. Ask them to list the suggestions in the video and from their own experiences. Ask them to write their ideas on a flip chart and present them to the other group.

Prevention steps include:

- Household hygiene
- Fixing leaky faucets
- Covering holes
- Caulking cracks
- Prevent mold and humidity
- Cover food securely

Remind them that the best way to avoid using pesticides is prevention.

Ask the other group to brainstorm all of the steps they can follow to protect themselves and their family from pesticide exposure and poisoning if it is necessary to use pesticides. Ask them to list the suggestions in the video and from their own experiences. Ask them to write their ideas on flip chart and present them to the other group. Protective steps include;

- Store all pesticides in their original containers.
- Store all pesticides where children and pets can not access them.
- Use the least toxic pesticide possible.
- Read the label and follow directions.
- Make sure to use the correct pesticide for the appropriate pest.
- Wear protective clothing.
- Do not use agricultural pesticides in the home.
- Wash hands and clothing after using pesticides.

Distribute handout 12: Alternatives to pesticides

Explain that in addition to some of the preventative methods they mentioned in the above exercise and on the video, these handouts offer specifics actions for specific pests.

Worker Protection Standard

Time: 30 minutes

Show the WPS excerpt from the video *El Terror Invisible, Pesticide Safety for North Carolina.* Ask for the participants to brainstorm the key features of the Worker Protection Standard. Write their responses on the flip chart.

Distribute handout 13: Worker protection standard

Aunque Cerca...Sano

Time: 30 minutes

Distribute a copy of the comic book *Aunque Cerca... Sano* to each participant. Explain that the comic book is one of the primary resources they will use to educate farmworkers and families to reduce pesticide exposure. Ask for volunteers to read the comic book aloud. Explain to the group this comic book will help them reinforce important messages about pesticides and pesticide safety—routes of exposure, health effects, ways to minimize exposure to pesticides and ways to protect children—when they are at work or at home.

Divide the participants into three groups. Ask group 1 to read and discuss pages 1-7. Ask group 2 to read and discuss pages 8-10. Ask group 3 to read and discuss pages 11-15. The groups must recognize the issues, topics, ways of exposure, definitions, and all the information they learned in this workshop. Members will discuss and agree on those issues. After each group has finished reading and discussing their sections ask each group to prepare a skit for the other groups. Ask them to make sure that each member of their group has a role. As the groups are preparing their skits, make sure they are addressing the key issues in their assigned section.

As each group presents, the other participants should listen and ask questions as if they were community members with no knowledge of pesticides. During the presentations, write down the key topics and messages on flip chart.

Explain to the group that it is important when doing household visits to make sure the families understand the content in the comic book. To that end, it will be important to not only distribute the comic book, but to review the contents with the family. Listed below are some tips for using the comic book as an educational tool with families:

- Read the comic book aloud to the family, caretaker or parent(s).
- Take turns reading sections of the comic book with the family, caretaker or parent(s) (if you are comfortable that their literacy level is appropriate for the comic book).
- Reiterate messages by pointing out the drawings and text in the comic book.
- Explain and summarize the basic points or sections in the comic book.
- Ask for questions or comments.
- Ask if they have experienced issues/ problems as described in the comic book.
- Ask participant to share this comic book with members of her/his family, relatives and neighbors.

Pesticide Education in the Community

Time: 30 minutes

Explain to the group that the workshop covered a lot of information and educational techniques regarding pesticides and ways to minimize exposure. Taking this information to the community is the next step. The exact process of taking pesticide messages to the community will depend on organizational capacity. Two primary ways of promoting pesticide safety to the community include home visits that are part of or separate from an existing program and small group workshops for community members. Regardless of the process, each organization should design a field plan that should include the following:

1) Target area
2) Number of families to reach
3) Method of home visit or workshop
4) Dates
5) Information and messages to promote
6) Materials to distribute (brochures, flyers, posters, list of resources, references etc.)
7) *Responsibilities of* promotores
8) Documentation/reporting criteria
9) Evaluation component

Evaluating Community Activities

Evaluating efforts in the community should include more than reporting the number of households reached or materials distributed. It is important to include an evaluation component that looks at the changes in knowledge, attitude and behavior. Often it is difficult to obtain this information. Suggestions include:

- Pre and post intervention focus groups with participants to examine the knowledge gained.
- Before and after intervention assessments that are administered individually. It is highly recommended that any assessment given to the farmworker be administrated orally. Written surveys or questionnaires are not appropriate.

Distribute handout 14: Sample community assessment form

Review with the participants. Explain that this instrument offers an example and may be a good template from which to work, they may want to design their own according to the project.

Workshop Evaluation

Time: 30 minutes

Distribute handout 15: Workshop assessment (post) and handout 16: Workshop evaluation

Give them time to complete the handouts.

Sources

Center for Environmental Resource Management, University of Texas at El Paso, *Agua Para Beber: A Training Manual for Community Volunteers in Hygiene Education and Water Purification Techniques,* 1995.

Center for Environmental Resource Management, University of Texas at El Paso, *Environmental Health and Justice Training Manual: A Community Guide to Understanding the Environment,* 1999.

Jeff Conant, "Pesticides are Poison" in Community Guide to Environmental Health (Berkeley, CA: Hesperian Foundation, forthcoming).

EPA, Protect Yourself from Pesticides—Guide for Agricultural Workers, March 1994.

EPA : www.epa.gov/pesticides/food/pest.htm

EPA : www.epa.gov/ebtpages/pestpesticidetype.htm#subtopics

Farmworkers Justice Fund, *Project Clean Environment for Healthy Kids Training Manual,* 2003.

HANDOUTS

25

Name: _____

Organization: _____

INSTRUCTIONS: Please answer the questions to the best of your ability.

1. Select three factors that influence how a chemical affects the body.

a) the way chemical is stored
b) the amount of chemical that entered the body (dose)
c) the lack of household cleaning practices
d) the amount of time the body is exposed to the chemical
e) the age of the person
f) eating a lot of garlic
g) the thickness of the body's skin

2. List two ways a chemical can enter the body

1) _____ 2) _____

3. Why are children more vulnerable to exposure to chemicals than adults? Write down the reasons you know:

4. Explain acute pesticide exposure?

5. List one health effect caused from an acute pesticide exposure.

6. Explain chronic pesticide exposure?

7. List one health effect (disease, illness) caused by being exposed to pesticides over a long period of time.

8. The majority of pesticide use in the United States is used to control pests:

a) on golf courses

b) in homes

c) on lawns

d) when growing crops

9. Herbicides are used to control_____ and insecticides are used to control_____.

10. When working in the fields, list three ways workers can reduce their exposure to pesticides:

1) _____

2) _____

3) _____

11. List three ways to reduce the risk of a child to be exposed to pesticides at home:

1) _____

2) _____

3) _____

12. List three "alternative" ways to reduce pests at your home:

1) _____

2) _____

3) _____

13. List one preventative step to take at home before using a pesticide to control pests:

Workshop Objectives

1) Define toxicity and the factors that influence toxicity

2) Know the different types of pesticides and their uses

3) Know how pesticides enter the body (routes of exposure)

4) Recognize the ways that children are exposed to pesticides

5) Be familiar with the health effects of pesticide exposure

6) Understand how pesticides affect children's health

7) Identify ways to minimize exposure to pesticides

8) Be familiar with the Worker Protection Standard

9) Know the appropriate actions to take in the case of pesticide exposure or pesticide poisoning

10) Be familiar with ways to effectively promote pesticide education to farmworkers and their families

11) Understand how to implement and evaluate program activities

CHEMICALS AND TOXICITY

Everything and everyone on this planet is chemical in nature. All matter is composed of chemical elements. Elements include oxygen, hydrogen, gold, silver, etc. Atoms are the basic building blocks in chemicals and they link together to form molecules and several molecules form a compound.

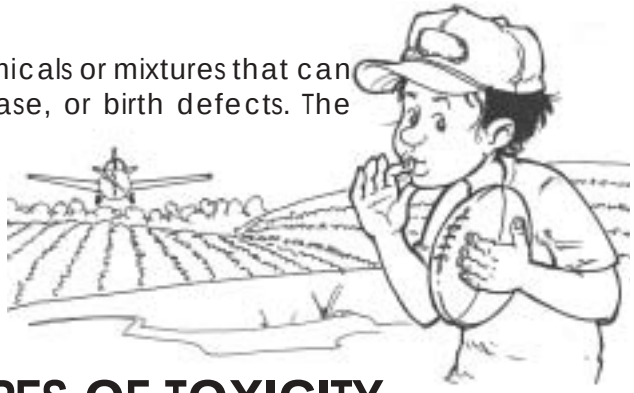
For instance, water is a compound. It is the combination of two atoms of the element Hydrogen and one atom of the element Oxygen. That is why it is abbreviated as H_2O.

Water = H_2O

Chemicals can be natural or synthetic (man made). Chemicals can be beneficial, can cause no harm, or can be toxic. All chemical substances, under certain circumstances can be toxic.

TOXICITY

Toxic substances are chemicals or mixtures that can cause illness, death, disease, or birth defects. The quantities and exposures necessary to cause these effects can vary widely. Many toxic substances are pollutants and contaminants in the environment. (EPA)



TYPES OF TOXICITY

Acute Toxicity

Refers to the ability of a chemical to do damage after a one-time exposure to relatively large amounts of that chemical. The exposure is sudden (usually accidental) and often becomes an emergency situation.

Chronic Toxicity

Refers to the ability of a chemical to cause damage after repeated exposure to relatively low amounts of the chemical over a long period of time.

HOW DO CHEMICALS GET INTO MY BODY?

In order to cause health problems, chemicals must enter your body. There are three **"routes of entry"** or ways a chemical can get into your body:

SKIN:

Absorbing Chemicals through the skin, including your eyes

NOSE:

Breathing in chemical gases, mists, or dusts that are in the air

MOUTH:

Breathing or swallowing chemicals that have spilled or settled onto food, beverages, cigarettes, beards or hands.

Source: *Health and Safety Training Kits.* Labor Occupational Health Program (LOHP), 1996

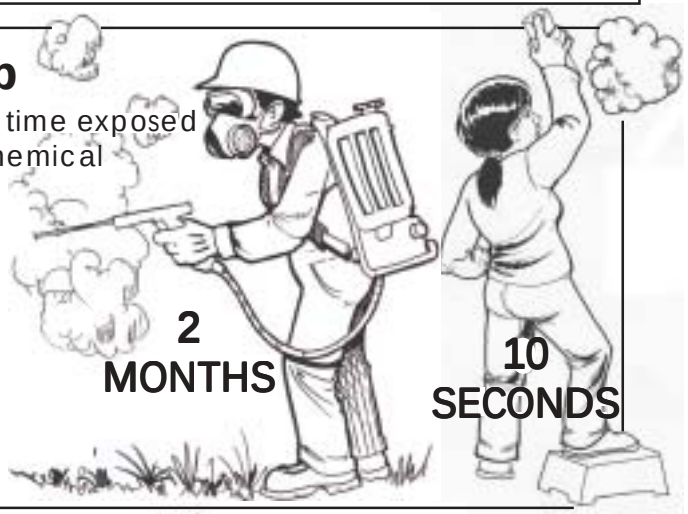
MAIN FACTORS THAT INFLUENCE TOXICITY

Toxic: means that the substance has the ability to produce injury.
How much injury and what kind of injury depend on a number of factors. These factors are:

1) dose-time relationship

dose: amount of the chemical

time: length of time exposed to the chemical



2) route of exposure

skin (dermal)

nose (inhaled)

mouth (ingested)

3) other factors that influence toxicity:

age

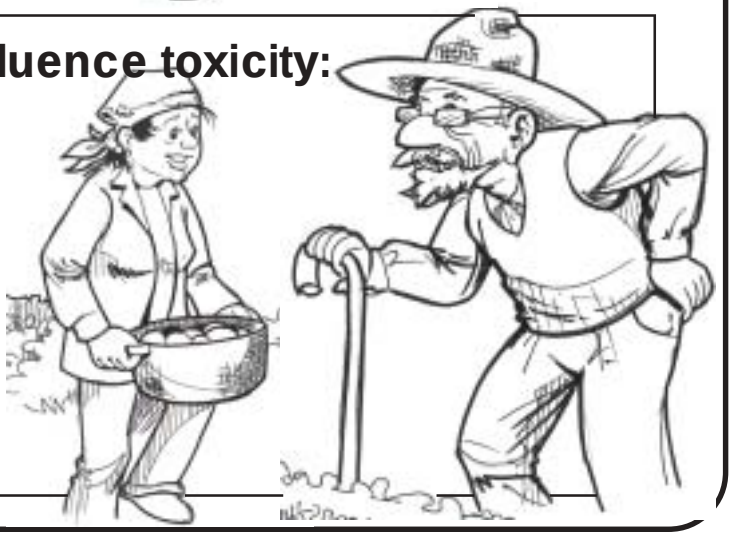
sex

health condition or status

nutrition

other chemicals interacting

tolerance



VULNERABILITY OF CHILDREN

Children are smaller

Their internal organs are still developing and maturing, children need a smaller "dose" than adults.

Children eat and drink more than adults

Pound per pound children breath more air and eat more than adults.

In relation to their body weight, infants and children eat and drink more than adults, possibly increasing their exposure to pesticides in food and water.

Children behave differently (crawl and hand-mouth activity)

Explain that young children like to explore the world with their mouths and that everything from hands to dirt can go into their mouths as part of their normal behavior.

Children are still developing

Explain that a child's excretory system is not fully developed and the body may not fully remove pesticides. Also explain that pesticides blocking the absorption of important food nutrients necessary for normal healthy growth.

Critical periods

There are «critical periods» in human development, including before birth, when exposure to a toxin can permanently alter the way an individual's biological system operates and cause harm.

PESTICIDES

WHAT ARE PESTICIDES?

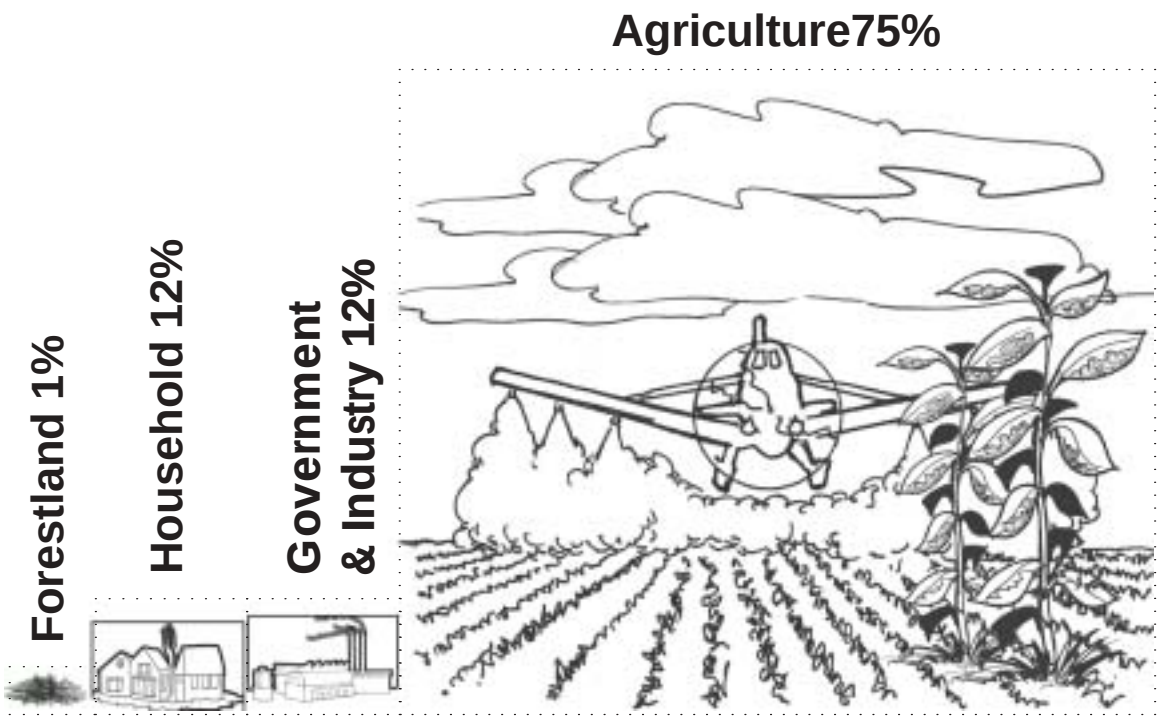
Pesticides are a substance used to control or kill pests--species that humans consider undesirable.

USES OF PESTICIDES

Most pesticides (75%) are used in agriculture to control pests.
Other nonagricultural uses of pesticides include:

- pet care
- disposable diapers
- lawn care
- household cleaners
- personal hygiene products
- swimming pools
- golf courses
- insect repellents
- public health (i.e. control mosquitoes)

Major uses of Pesticides in the United States



Types of Pesticides

There are several types of pesticides. The most common ones are:

Insecticides: Used to kill or control insects

Herbicides: Used to kill or control weeds

Fungicidas: Used to kill fungi

Types of Pesticides used in the United States

Source: Wagner, *In Our Backyard* ,1994

Active and Inert Ingredients

The active ingredient is the component of a pesticide that kills or controls the target pests.

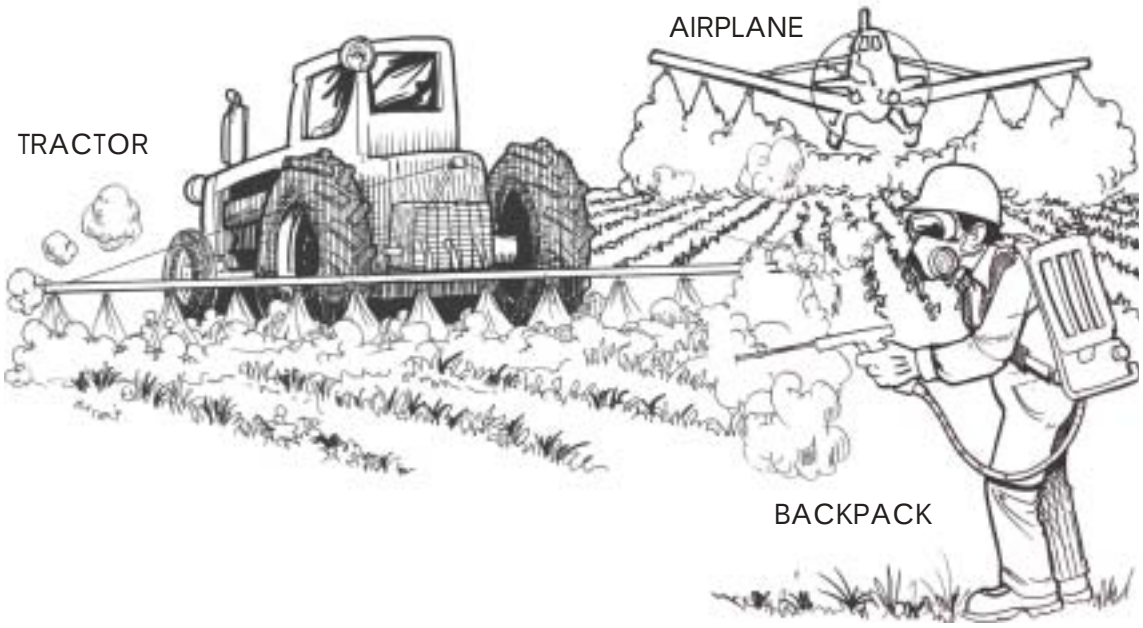
Inert or inactive ingredients are added to the pesticide to act as a carrier of the pesticide or to improve the performance of the active ingredient. Inert ingredients make applying the pesticide easier and more efficient. Water, kerosene, detergents, chlorinated solvents are commonly used inert ingredients. Typically, the specific inert ingredients are unknown to the general public because they are considered business trade secrets.

Types of Pesticide Application in the Fields

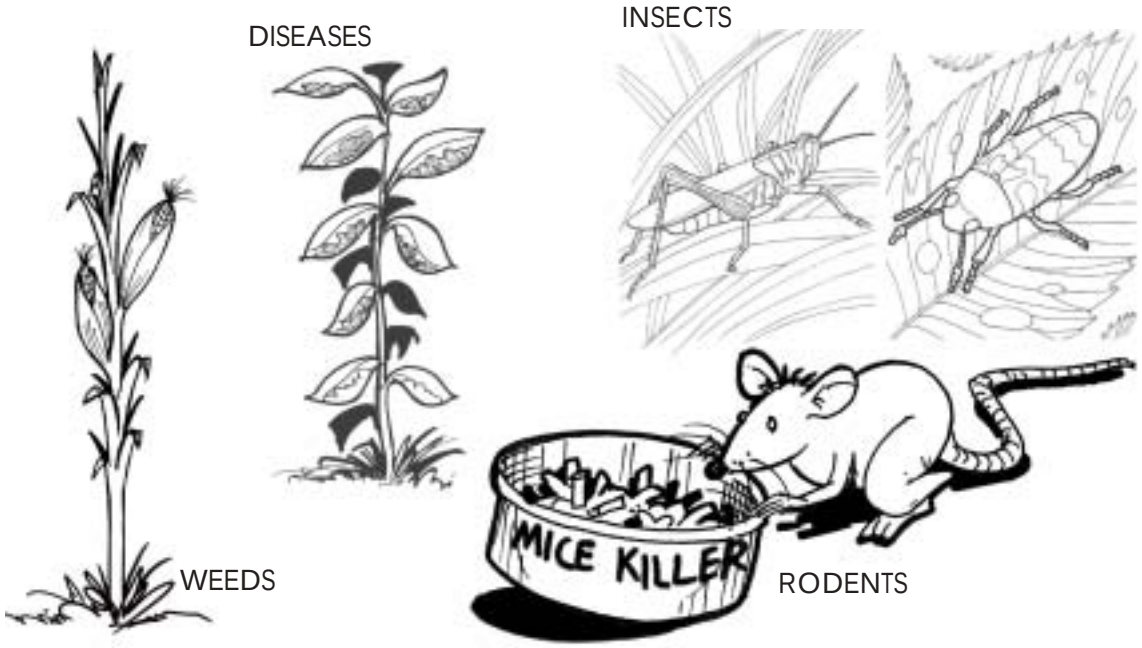
A PESTICIDE is any chemical that is used to control pests..

Many people use pesticides while working in agricultural **FIELDS**.

Pesticides are applied in different ways:



Pesticides are used to kill many kinds of **PESTS**:

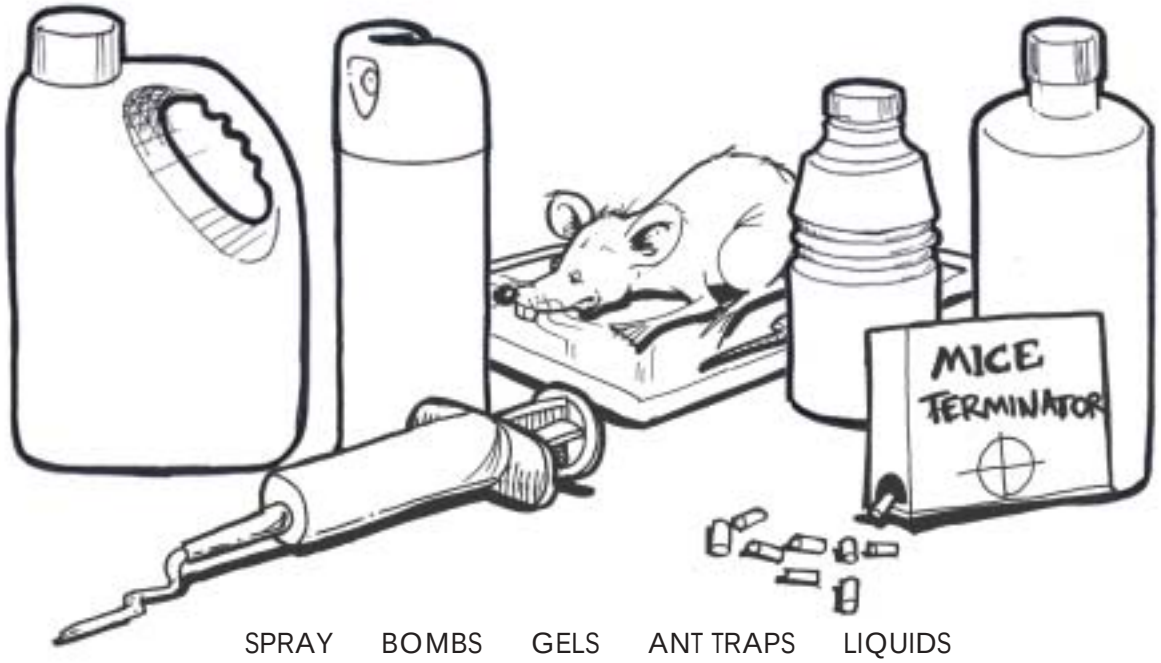


Types of Household Pesticides

A PESTICIDE is any chemical that is used to control pests.

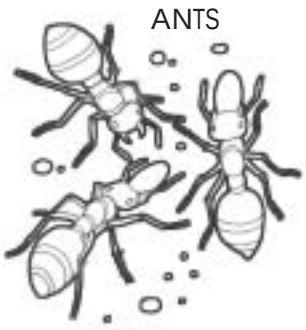
Many people use pesticides in their **YARDS** and **HOMES**.

Pesticides may come in many forms:



SPRAY BOMBS GELS ANT TRAPS LIQUIDS

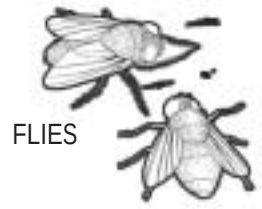
Pesticides are used to kill many kinds of **PESTS**:



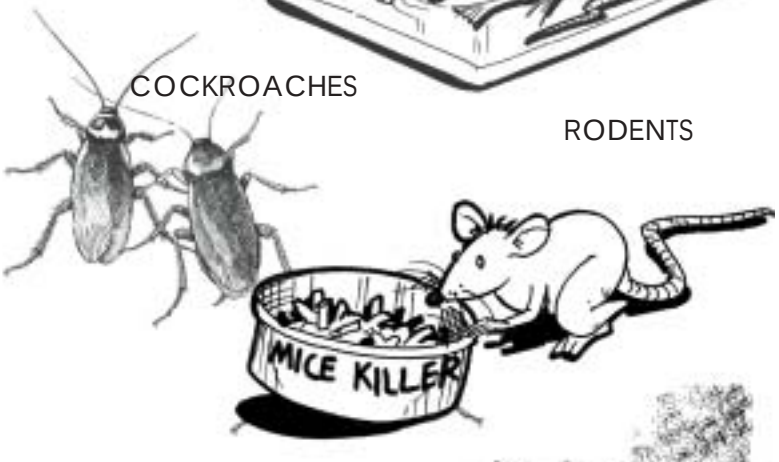
ANTS

COCKROACHES

RODENTS

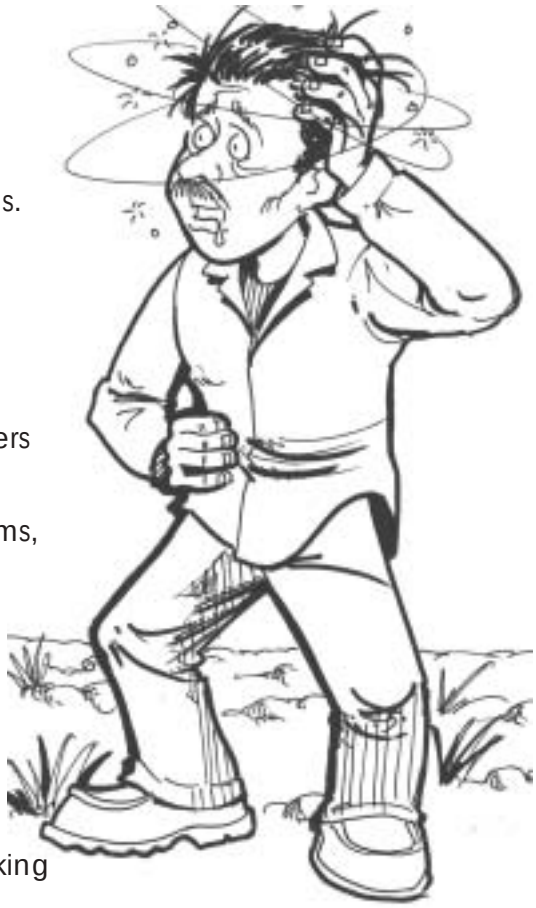


FLIES



MOLD

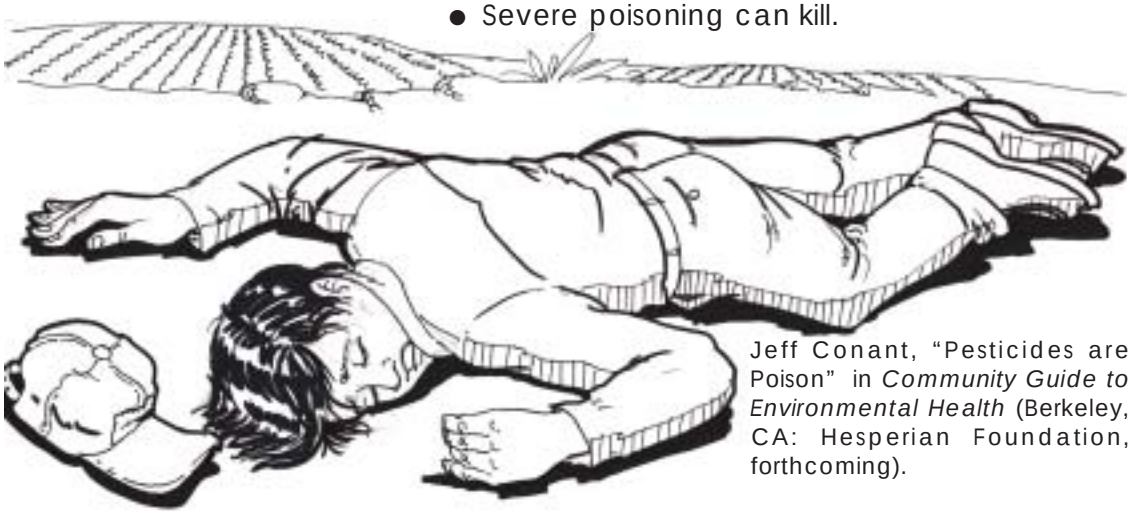
Signs for Pesticide Poisoning



- **Nose and Mouth:** runny nose, drooling.
- **Chest and Lungs:** pain, breathing problems.
- **Stomach:** pain, diarrhea, nausea and vomiting.
- **Legs and Arms:** muscle cramps or pains, twitching, trouble walking.
- **Skin:** itching, rashes, bumps, redness, blisters burning, sweating too much.
- **Head and Eyes:** headaches, vision problems, small pupils in the eyes.
- **Hands:** damage to fingernails, rashes, numbness and tingling in fingers.
- **Other general signs:** confusion, weakness, trouble concentrating, muscle twitching, restlessness and anxiety, bad dreams and trouble sleeping.
- If you have any of this problems while working with pesticides, leave the worksite immediately. Do not wait until you feel worse. Get away from the pesticides and go to a hospital or clinic right away.

Signs of severe poisoning:

- Unconsciousness, loss of control over bladder and bowels (peeing and sheeting without control), blue lips and fingernails, shaking.
- Severe poisoning can kill.



Jeff Conant, "Pesticides are Poison" in *Community Guide to Environmental Health* (Berkeley, CA: Hesperian Foundation, forthcoming).

Protect yourself from pesticides

Minimize exposure when working in the fields:

- Wear protective clothing—long pants, long sleeve shirts, socks, shoes, a hate and gloves (if possible).
- Wash hands before eating, drinking and smoking. Wash hands before and after going to the bathroom.
- Change clothes after working in the fields.
- Wash work clothes with pesticides separately.
- Shower after working with pesticides or in the fields.
- Keep out of recently treated fields. If you see a warning sign, enter only when you know the Restricted Entry Interval has ended.
- Never take pesticides home from work.

Minimize exposure when at home:

- Wash fruits and vegetables before eating.
- Take shoes off before coming in the house.
- Never use pesticide containers other than to store pesticides.
- Wash toys that may have pesticide drift on them.
- Wash hands and wash children's hands.
- Maintain a clean home.

Helpful Telephone Numbers

IN CASE OF AN EMERGENCY CALL: 911

FOR HELP:

Poison Control Center/
Centro de Control de Envenenamiento
1-800-222-1222

FOR INFORMATION ABOUT PESTICIDES:

Nacional Pesticide Information Center (NPIC)

1-800-858-7378 (free)

ALTERNATIVE TO PESTICIDES

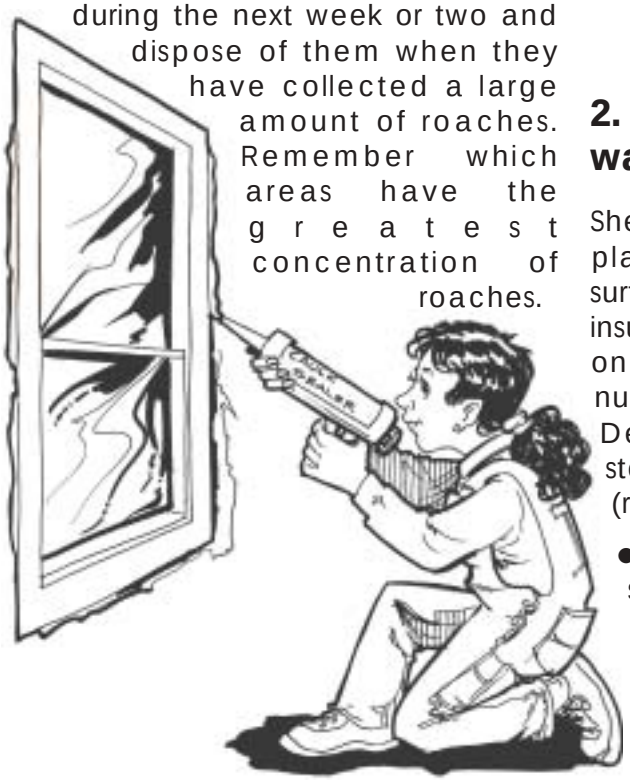
COCKROACHES

You can control cockroaches by taking these simple steps.

1. Find them
2. Deny them shelter, food and water
3. Kill them

1. Find them

Look for evidence of cockroaches, such as living or dead roaches, their egg cases, or their feces (small dark brown pellets). Place sticky traps in areas where you suspect the cockroaches are living, like under a sink, behind the refrigerator or stove, or in the back of a kitchen cabinet. You can buy sticky traps wherever insecticides are sold. Place the traps against the wall because roaches like to stay along the edges of floors. Check on the traps during the next week or two and dispose of them when they have collected a large amount of roaches. Remember which areas have the greatest concentration of roaches.



2. Deny them shelter, food and water

Shelter: Cockroaches live in small tight places and prefer to live on porous surfaces like wood, paper, cardboard, insulation and cloth. Focus your efforts on areas where you caught the largest number of roaches in the sticky traps. Deny them shelter by organizing storage areas and cleaning all surfaces (removing clutter). Also,

- seal all cracks and crevices with silicone caulk.
- put screens over vents and pipes that open to the outside.
- seal spaces around corners and pipes

Food

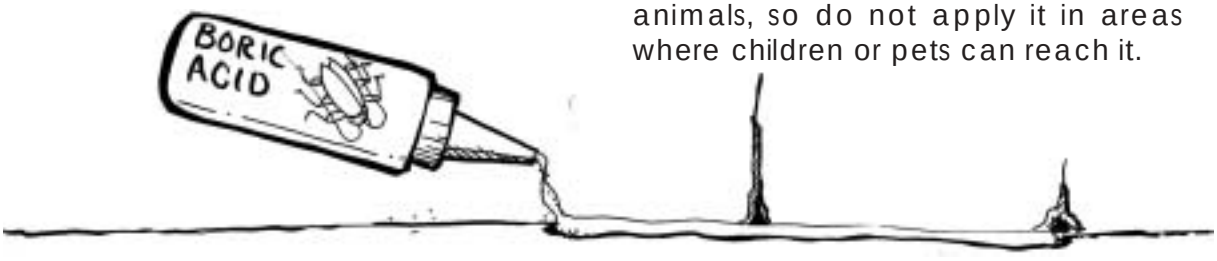
- seal up boxes and bags of food
- don't leave bowls of pet food or water out over night
- pick up dirty dishes and clean and dry them right away
- wipe up spills and crumbs
- keep a tight lid on trash and remove frequently

Water

- drain dishwater from the sink
- fix leaky faucets and plumbing
- empty excess water in flower pots and plant stands
- insulate cold water pipes to prevent condensation

3.Kill them

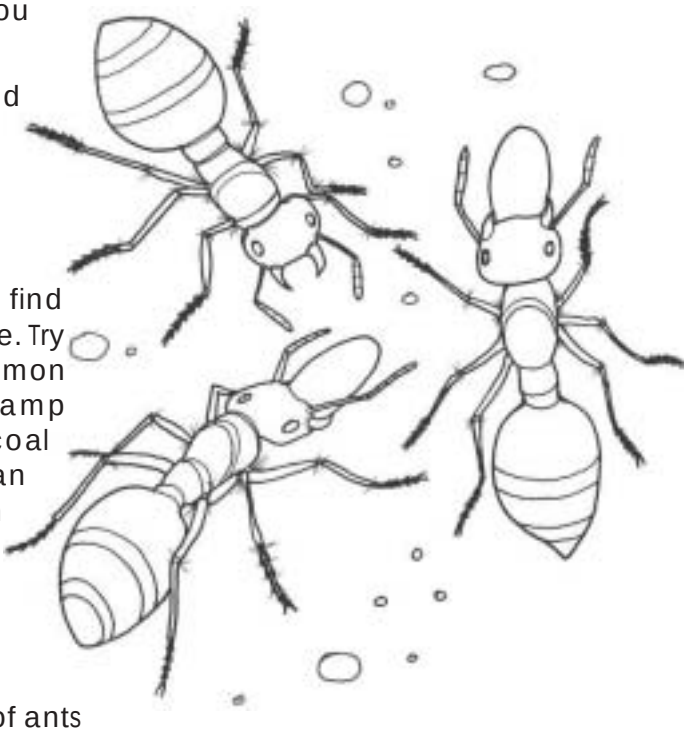
If you still see roaches after taking the steps above, try using less toxic products like boric acid powder and bait stations to kill the remaining pests. Sprinkle the boric acid powder into cracks and crevices where roaches live. Set bait stations or sprinkle boric acid around baseboards, under and behind refrigerator, stove, sink, dishwasher, washing machine and dryer. Roaches will eat the boric acid and the poison in the stations and will also carry the poison back to their nests on their legs. Boric acid is toxic to small children and animals, so do not apply it in areas where children or pets can reach it.



ANTS

To get rid of ants in your home, you can do several things:

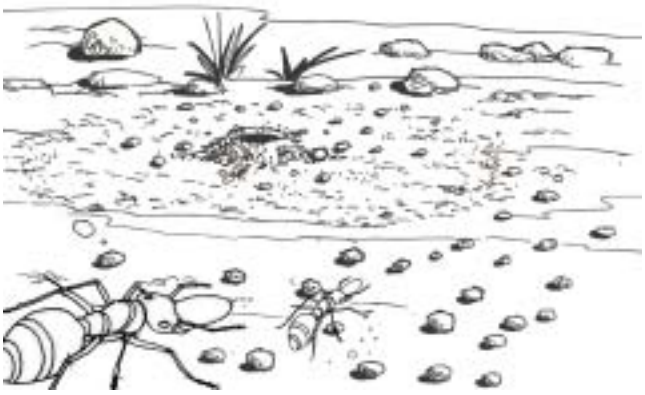
1. Find their point of entry and seal it.
2. Destroy the nest.



Find their point of entry

Follow the trail of ants until you find where they are entering your home. Try to prevent their entry with fresh lemon juice and lemon peel, chalk, damp coffee grounds, bone meal, charcoal dust or cayenne pepper. You can also temporarily seal the area with Vaseline, until you can permanently seal it with silicone caulk.

In the areas where there are a lot of ants spray or wipe the area with soap and water or with a fifty-fifty solution of vinegar and water.



Destroy the nest

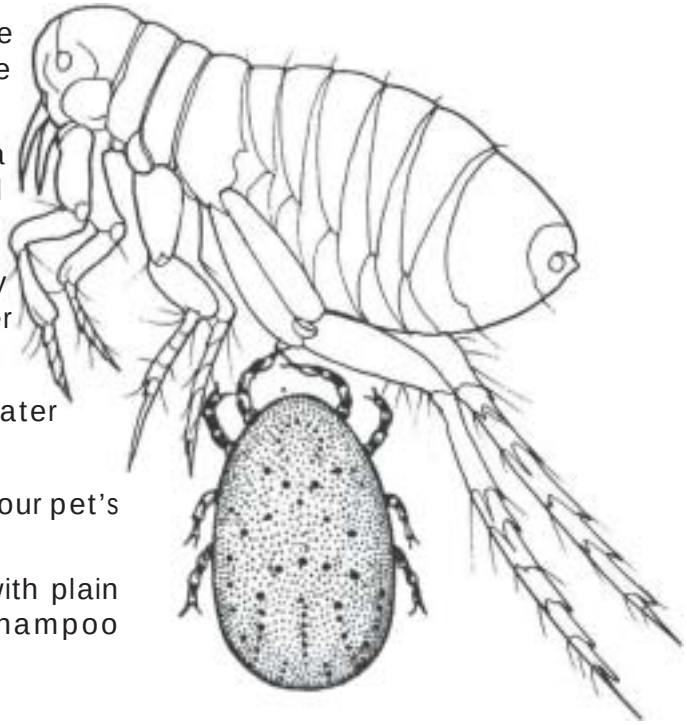
If you cannot find the nest, you can set boric acid baits near their point of entry. You can buy boric acid baits at a hardware store or you can make your own trap by mixing 2 teaspoons of boric acid powder, 4 ounces of water and a teaspoon of sugar and placing the mixture into a lid or shallow container. The ants will ingest the mixture and carry it back to their nest to poison the others. Place the baits out of the reach of children and pets since boric acid is toxic if ingested.

- If you know where the ant nest is, pour 1-2 gallons of boiling water onto individual ant hills. Be careful not to spill water on any neighboring vegetation that you want to keep.

FLEAS

If you have a pet with fleas, try the following measures to control the fleas:

- Groom your pet using a flea comb to inspect for and remove fleas
- Vacuum often and immediately dispose of the vacuum cleaner bag
- Wash pet bedding in hot water once a week
- Use soap and water to clean your pet's sleeping areas
- Shampoo your pet regularly with plain soap & water or grooming shampoo (without pesticides)



If these steps are not enough, you may need to buy a less-toxic product:

- pheromone pills (from veterinarian) to reduce the flea population
- products labeled "insect growth regulators" or "IGRs" to kill the offspring of any fleas currently on your pet. Three common IGRs available at most pet stores are named "Program", "Nylar," and "Biolar".
- avoid using any product listing the following chemicals as the active ingredient: chlorpyrifos, dichlorvos, phosmet, naled, tetrachlorvinphos, diazinon, malathion, carbaryl and propoxur. These chemicals are dangerous to adults and children.

Mosquito Control

Reduce the Risk

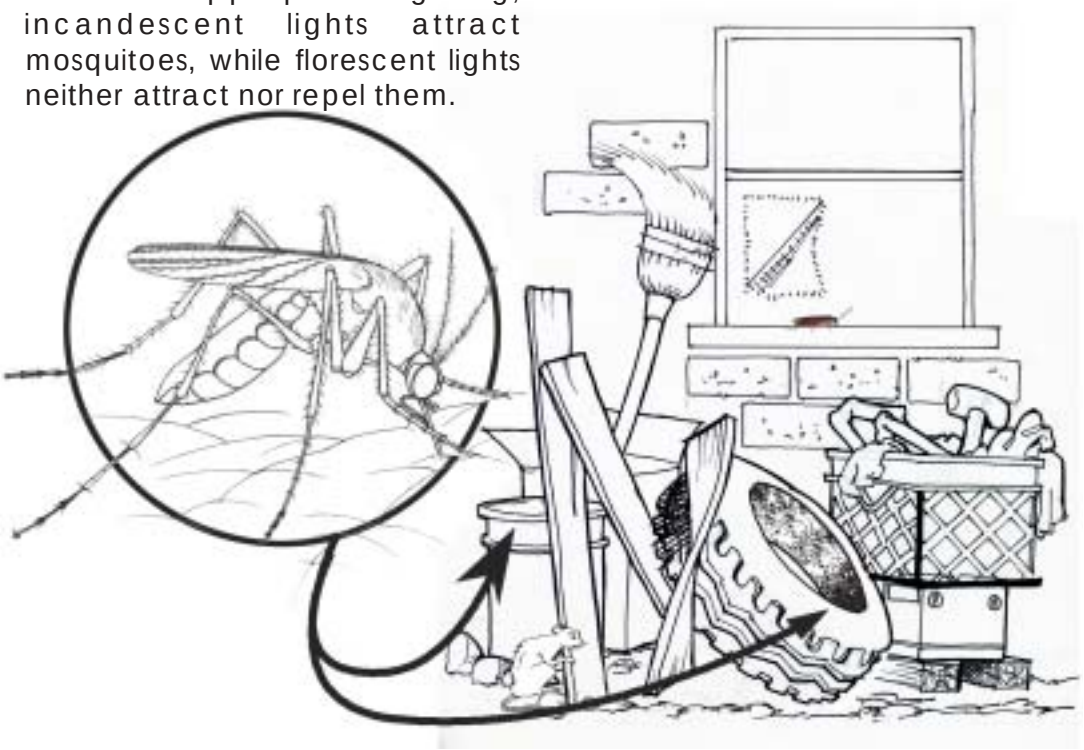
The most effective way to reduce a local mosquito population is to remove their breeding areas in sources of standing water, such as old discarded tires, clogged gutters, planters, bird baths, or tree stump holes. Empty children's swimming pools when not in use. Other easy steps to consider include:

- Keep grass cut short and trim shrubs to minimize hiding places for adult mosquitoes.
- Wear a hat and light-colored, loose-fitting clothing (avoid wearing bright colors or flowery prints).
- Avoid using scented soaps and shampoos, lotions, oils or perfumes, including tanning products.
- Consider appropriate lighting, incandescent lights attract mosquitoes, while florescent lights neither attract nor repel them.

Repellents

Most insect repellents include the chemical DEET (N,N-diethyl-meta-toluamide). DEET is absorbed through the skin and can cause harm, especially to children. Other repellents include natural ingredients such as citronella, eucalyptus oil, or soybean, which are non-toxic and safer for use on children.

If you use a repellent with DEET, it should contain no more than 10 percent of the chemical. The concentration of DEET varies significantly from product to product, so read the label of any product you purchase. Repellents with DEET should be used sparingly on children 2 through 6 years of age and not at all on infants under the age of 2.



The US EPA recommends the following precautions when using insect repellents containing DEET:

- Apply only to exposed skin and/or clothing. Do not use under clothing.
- Never use repellents over cuts, wounds, or irritated skin.
- Do not apply to eyes and mouth, and apply sparingly around ears. When using sprays do not spray directly onto face; spray on hands first and then apply to face.
- Do not allow children to handle the products, and do not apply to children's hands. When using on children, apply to your own hands and then put it on the child.
- Do not spray in enclosed areas. Avoid breathing a repellent spray, and do not use it near food.
- Use just enough repellent to cover exposed skin and/or clothing. Heavy application and saturation is generally unnecessary for effectiveness; if biting insects do not respond to a thin film of repellent, then apply a bit more.
- After returning indoors, wash treated skin with soap and water or bathe. This is particularly important when repellents are used repeatedly in a day or on consecutive days. Also, wash treated clothing before wearing it again.

If you suspect that you or your child are reacting to an insect repellent, discontinue use, wash treated skin, and then call your local poison control center. If/when you go to a doctor, take the repellent with you.

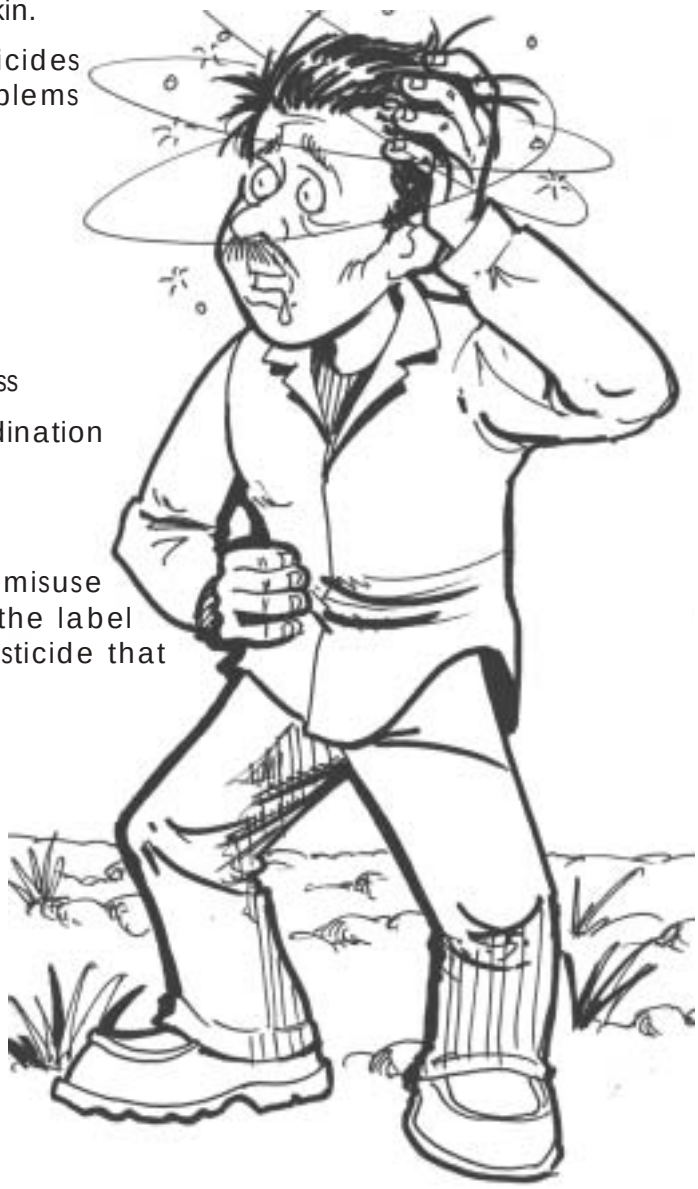
NEVER USE AGRICULTURAL PESTICIDES AT HOME

Using farm pesticides in the home is dangerous and illegal. These chemicals are not designed to be used where people will be directly exposed. Farm pesticides properly used outdoors are broken down by sunlight, rain, and bacteria. Indoors, farm pesticides may last for years. You, your family, and pets may be harmed by pesticides misused indoors by swallowing them, breathing them in, or touching them with your skin.

When used indoors, farm pesticides can cause serious health problems including:

- Dizziness
- Blurred vision
- Headaches
- Difficulty breathing
- Confusion and memory loss
- Weakness and poor coordination
- Vomiting and diarrhea
- Death

It is also against the law to misuse pesticides. You must follow the label directions and never use a pesticide that does not have label directions.



WARNINGS ABOUT THE HOME USE OF PESTICIDES

Conventional pesticides may get rid of insects and other pests, but the cure can be worse than the problem. Pesticides used in and around the home can accidentally poison children, adults or pets. They also pollute the air and water. You can minimize pesticide exposure by taking some simple measures:

- Try to prevent bugs from entering your home in the first place
- Use non-chemical methods of killing insects who do enter the home

If you must use a chemical pesticide, many of the injuries that can occur during its application are preventable. Before any use, you should always:

- Read the label and follow directions.
- Try to minimize your exposure to the pesticide.
- Wear protective clothing such as long-sleeve shirts and rubber gloves when necessary.
- Wash application equipment, hands and clothing after using pesticides.
- Store all pesticides in their original containers in areas where children and pets cannot get at them.
- Dispose of used containers properly.
- Never use farm pesticides in the home.

Sources: American Academy of Pediatrics, US EPA, Centers for Desease Control and Prevention Texas Structural Pest Control Board as cited in Farmworkers Justice Fund--Project Clean Environment for Healthy Kids, 2003

THE WORKER PROTECTION STANDARD

The Worker Protection Standard (WPS) is a federal law designed to protect the health of farmworkers and pesticide handlers. Its requirements include:

Protection during applications

Applicators are prohibited from applying a pesticide in a way that will expose workers or other persons. Workers are excluded from areas while pesticides are being applied.

Restricted-entry intervals

Restricted-entry intervals must be specified on all agricultural plant pesticide product labels. Workers are excluded from entering a pesticide treated area during the restricted entry interval, with only narrow exceptions.

Personal protective equipment

Personal protective equipment must be provided and maintained for handlers and early-entry workers.

Notification of workers

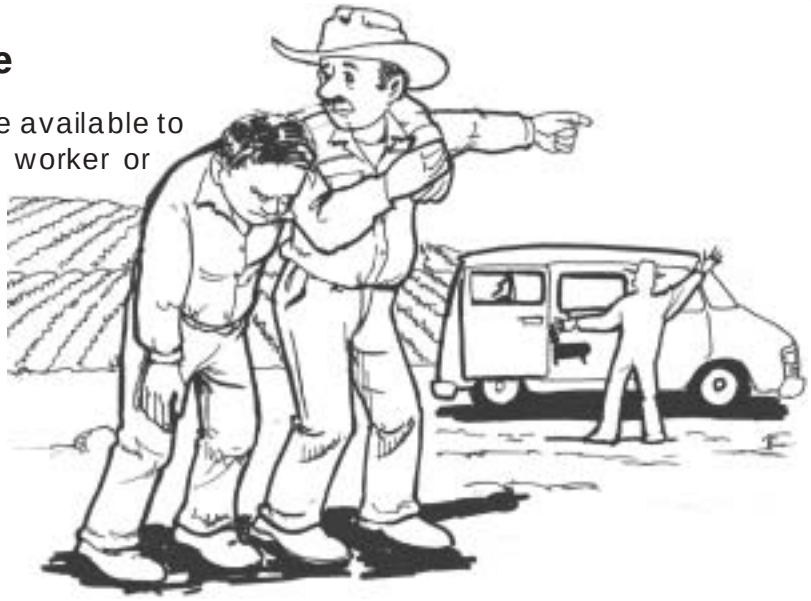
Workers must be notified about treated areas so they may avoid inadvertent exposures.

Decontamination supplies

Handlers and workers must have an ample supply of water, soap, and towels for routine washing and emergency decontamination.

Emergency Assistance

Transportation must be made available to a medical care facility if a worker or handler may have been poisoned or injured. Information must be provided about the pesticide to which the person may have been exposed.



Pesticide safety training and safety posters

Training is required for all workers and handlers, and a pesticide safety poster must be displayed.

Access to labeling and site specific information

Handlers and workers must be informed of pesticide label requirements. Central posting of recent pesticide applications is required.

Pesticide Safety Knowledge

1. What are pesticides used for?

___ to control pest ___ don't know

___ to control weeds ___ other reasons _____

2. How can chemicals enter the body?

___ through the skin ___ don't know

___ through the nose ___ other reasons _____

___ through the mouth

3. Why are children more at risk to be poisoned by a pesticide?

___ children are smaller ___ don't know

___ children eat and drink more ___ another way _____

___ children crawl and put everything in their mouths

4. Do you store pesticides out of the reach of children?

Yes ___ No ___ If yes, where?

___ under the sink

___ inside the cabinets

___ in the restroom

___ other place _____

5. In what other ways can you protect children from pesticides?

___ taking your shoes off before entering the house and leaving them in a special place

___ after coming home from the fields shower or at least wash your hands before touching the children

___ getting use to washing our hands and washing our children's hands often

___ store and wash work clothes separately from the families

___ washing fruits and vegetables before eating them

___ covering toys outside when they are fumigating and wash them before using them

___ don't touch, hug or carry children until we have washed ourselves and change our work clothes

___ don't know

6. What are symptoms of pesticide poisoning?

___ drooling ___ blurry vision

___ respiratory problems ___ dizziness

___ itching or rashes ___ don't know

___ headaches ___ other symptoms _____

7. Can severe pesticide poisoning kill a person?

Yes ___ No ___

Name: _____

Organization: _____

INSTRUCTIONS: Please the answer questions to the best of your ability.

1. Select three factors that influence how a chemical affects the body.

a) the way chemical is stored
b) the amount of chemical that entered the body (dose)
c) the lack of household cleaning practices
d) the amount of time the body is exposed to the chemical
e) the age of the person
f) eating a lot of garlic
g) the thickness of the body's skin

2. List two ways a chemical can enter the body

1) _____ 2) _____

3. Why are children more vulnerable to exposure to chemicals than adults? Write down the reasons you know:

4. Explain acute pesticide exposure?

5. List one health effect caused from an acute pesticide exposure

6. Explain chronic pesticide exposure?

7. List one health effect (disease, illness) caused by being exposed to pesticides over a long period of time.

8. The majority of pesticide use in the United States is used to control pests:

a) on golf courses

b) in homes

c) on lawns

d) when growing crops

9. Herbicides are used to control_____ and insecticides are used to control_____.

10. When working in the fields, list three ways workers can reduce their exposure to pesticides:

1) _____

2) _____

3) _____

11. List three ways to reduce the risk of a child to be exposed to pesticides at home:

1) _____

2) _____

3) _____

12. List three "alternative" ways to reduce pests at your home:

1) _____

2) _____

3) _____

13. List one preventative step to take at home before using a pesticide to control pests:

Workshop Evaluation

1. Did the information provided today cover the workshop objectives?

2. Was the information provided sufficient to accomplish your project activities? If no, please explain.

3. Were the information and materials presented in a clear and objective manner? If no, please explain.

4. What information or exercise was the **most useful** to you? Why?

5. What information or exercise was the **least useful** to you? Why?

6. Please tell us your recommendations to improve the workshop:

7. Please give any general comments or suggestions about the entire workshop:

Thanks!

Apendix: Videos and Supporting Materials

The Playing Field

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Cómo Controlar Plagas (How to Control Pests)

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El Terror Invisible (The Invisible Terror)

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Printed Materials:

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